

Patent Claims

1. An apparatus for cooling charge air and exhaust gas in particular in a motor vehicle with internal combustion engine, having a recirculated exhaust-gas stream and a charge-air stream, characterized in that the exhaust-gas stream is cooled by means of a first and a second heat exchanger, the charge-air stream is cooled by means of a third heat exchanger, before the exhaust-gas stream and charge-air stream which have been cooled in this manner are combined.
2. An apparatus for cooling charge air and exhaust gas in particular in a motor vehicle with internal combustion engine, having a recirculated exhaust-gas stream and a charge-air stream, characterized in that the exhaust-gas stream is cooled by means of a first heat exchanger, the cooled exhaust-gas stream is combined with the charge-air stream, and the mixed exhaust-gas/charge-air stream is then cooled by means of a second heat exchanger.
3. An apparatus for cooling charge air and exhaust gas in particular in a motor vehicle with internal combustion engine, having a recirculated exhaust-gas stream and a charge-air stream, characterized in that the exhaust-gas stream is combined with the charge-air stream and the mixed exhaust-gas/charge-air stream is then cooled by means of a heat exchanger.
4. The apparatus as claimed in claims 1 to 3, characterized in that the recirculated exhaust-gas stream can be controlled by means of a valve.
5. The apparatus as claimed in claim 1 or 2, characterized in that the first heat exchanger and the second heat exchanger are formed as separate heat exchangers.

6. The apparatus as claimed in claim 1 or 2,
characterized in that the first heat exchanger and the
second heat exchanger, as separate heat exchangers, are
5 formed as a structural unit.

7. The apparatus as claimed in one of claims 1, 5 or
6, characterized in that the first and/or the second
and/or the third heat exchanger are formed as a
10 structural unit.